Complete Summary

GUIDELINE TITLE

Low back - lumbar & thoracic (acute & chronic).

BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Low back - lumbar & thoracic (acute & chronic). Corpus Christi (TX): Work Loss Data Institute; 2006. 390 p. [456 references]

GUIDELINE STATUS

Note: This guideline has been updated. The National Guideline Clearinghouse (NGC) is working to update this summary.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory information has been released.

On April 7, 2005, the U.S. Food and Drug Administration (FDA) asked manufacturers of non-prescription (over the counter [OTC]) non-steroidal anti-inflammatory drugs (NSAIDs) to revise their labeling to include more specific information about potential gastrointestinal (GI) and cardiovascular (CV) risks, and information to assist consumers in the safe use of the drugs. See the FDA Web site for more information.

Subsequently, on June 15, 2005, the FDA requested that sponsors of all NSAIDs make labeling changes to their products. FDA recommended proposed labeling for both the prescription and OTC NSAIDs and a medication guide for the entire class of prescription products. See the FDA Web site for more information.

COMPLETE SUMMARY CONTENT

IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

Work-related low back pain

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Chiropractic
Family Practice
Internal Medicine
Orthopedic Surgery
Surgery

INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Health Plans
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To offer evidence-based step-by-step decision protocols for the assessment and treatment of workers' compensation conditions

TARGET POPULATION

Workers with low back pain

INTERVENTIONS AND PRACTICES CONSIDERED

The following interventions/procedures were considered and recommended as indicated in the original guideline document:

1. Activity restrictions/work modifications
2. Aerobic exercise
3. Age adjustment

4. Antidepressants in chronic cases
5. Anti-inflammatory medications (e.g., ibuprofen)
6. Back schools
7. Behavioral treatment
8. Chiropractic/manipulation
9. Cold/heat packs
10. Differential diagnosis
11. Discectomy/laminectomy
12. Electromyography (needle, not surface)
13. Epidural steroid injections (ESIs) prior to surgery
14. Exercise
15. Fear-avoidance beliefs questionnaire (FABQ)
16. Fluoroscopy (for ESIs)
17. Heat therapy
18. Implantable drug-delivery systems (IDDSs) (as a last-resort option)
19. Kyphoplasty
20. Massage
21. McKenzie method
22. Magnetic resonance imaging (MRI)
23. Microdiscectomy
24. Muscle relaxants for acute cases
25. Myelography
26. Nonprescription medications (e.g., acetaminophen, aspirin, ibuprofen)
27. Occupational/physical therapy
28. Percutaneous vertebroplasty
29. Psychological screening prior to surgery
30. Return to work and regular activities
31. Shoe insoles/shoe lifts
32. Stretching (as part of an exercise program)
33. Work conditioning/work hardening
34. Yoga

The following interventions/procedures are under study and are not specifically recommended:

1. Adhesiolysis/neuroplasty/percutaneous epidural neuroplasty
2. Aquatic therapy
3. Back brace/corsets/orthotrac vest/lumbar supports for treatment
4. Bone-growth stimulators
5. Botulinum toxin (Botox)
6. Colchicine
7. Education
8. Electromagnetic pulsed therapy
9. Ergonomic interventions for primary prevention
10. Facet rhizotomy
11. Feldenkrais
12. Magnetic resonance (MR) neurography
13. Mattress firmness
14. MedX lumbar extension machine
15. Percutaneous electrical nerve stimulation (PENS)
16. Radiofrequency neurotomy
17. Sympathetic therapy

18. Tumor necrosis factor (TNF) modifiers

The following interventions/procedures were considered, but are not recommended:

1. Acupuncture
2. Back brace/corsets/lumbar supports for prevention
3. Bed rest
4. Biofeedback
5. Bone scan
6. Chemonucleolysis (chymopapain)
7. Computed tomography (CT) and CT myelography
8. Cutaneous laser treatment
9. Diagnostic and therapeutic ultrasound
10. Diathermy
11. Disc prosthesis
12. Discography
13. Dynamic neutralization system (Dynesys)
14. Facet-joint injections
15. Flexibility
16. Fusion (spinal, endoscopic)
17. H-wave stimulation (devices)
18. Interferential therapy
19. Intradiscal electrothermal annuloplasty (IDET)
20. Intradiscal steroid injection
21. Ligamentous injections
22. Low level laser therapy (LLLT)
23. Lumbar supports (for prevention)
24. Magnet therapy
25. Manipulation under anesthesia (MUA)
26. Microcurrent electrical stimulation (MENS devices)
27. Neuromuscular electrical stimulators (except for patients with specific criteria)
28. Neuroreflexotherapy
29. Nucleoplasty
30. Opioids
31. Oral corticosteroids
32. Percutaneous discectomy (PCD)
33. Percutaneous endoscopic laser discectomy (PELD)
34. Percutaneous intradiscal radiofrequency (thermocoagulation)
35. Percutaneous neuromodulation therapy (PNT)
36. Prolotherapy, also known as sclerotherapy
37. Radiography
38. Single photon emission computed tomography (SPECT)
39. Spinal cord stimulation (SCS)
40. Standing MRI
41. Surface electromyography
42. Thermography (infrared stress thermography)
43. Traction
44. Transcutaneous electrical neurostimulation (TENS)
45. Trigger point injections
46. Vertebral axial decompression (VAX-D)
47. Videofluoroscopy

MAJOR OUTCOMES CONSIDERED

- Reliability and value of diagnostic assessments
- Effectiveness of treatment in relieving pain and restoring normal function

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Ranking by quality within type of evidence:

a. High Quality
b. Medium Quality
c. Low Quality

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

The guideline developers reviewed published cost analyses.

METHOD OF GUIDELINE VALIDATION

Not stated

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not applicable

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note: This guideline has been updated. The National Guideline Clearinghouse (NGC) is working to update this summary. The recommendations that follow are based on the previous version of the guideline.

Identify Radicular Signs

- First visit: may be with Primary Care Physician MD/DO (50%), Orthopedist (33%), or Chiropractor (17%)
- Determine presence or absence of radiculopathy:
  - Medical history
  - Sensation: Feeling pain radiating below the knee (calf or lower), not just referred pain (pain radiating to buttocks or thighs), and dermatological sensory loss
  - Straight leg raising test (sitting and supine), productive of leg pain
  - Motor strength and deep tendon reflexes
  - Document flexibility/range of motion (ROM) (fingertip test), muscle atrophy (calf measurement), local areas of tenderness, visual pain analog, sensation alternation
  - Note: Radiculopathy is often over-diagnosed. For unequivocal evidence of radiculopathy, refer to the American Medical Association (AMA) Guides to the Evaluation of Permanent Impairment, 5th Edition, page 382-383.
- Rule out "red flag" diagnoses, including diagnostic studies, for specialist referral:
  - Cauda Equina Syndrome (Schedule emergency procedure) (Refer to the original guideline document for ICD-9 codes for this and other diagnoses)
  - Fracture, Compression fracture, Dislocation, Wound
  - Cancer, Infection
  - Dissecting/Ruptured Aortic Aneurysm
  - Others (prostate problems, endometriosis/gynecological disorders, urinary tract infections, and renal pathology)
  - Note: This guideline should not be used to suggest appropriate procedures for other conditions or comorbidities. When the treating doctor suspects any other diagnosis, they may decide what necessary

testing should be performed, which may include laboratory tests such as erythrocyte sedimentation rate (ESR), complete blood count (CBC), and urinalysis (UA) to screen for nonspecific medical diseases (especially infection and tumor) of the low back.

Without Radiculopathy (90% of cases)

- Also first visit (day 1):
  - Prescribe decreased activity, if necessary, based on severity and difficulty of job, limited passive therapy with heat/ice (3 to 4 times/day), stretching/exercise (training by physical therapist OK) appropriate analgesia (i.e., acetaminophen) and/or anti-inflammatory (i.e., ibuprofen) [Benchmark cost: $14], back to work except for severe cases in 72 hours, possibly modified duty. Avoid bed rest.
  - No x-rays unless significant trauma (e.g., a fall)
  - If muscle spasms, then consider muscle relaxant with limited sedative side effects [Benchmark cost: $44] (Note: The purpose of muscle relaxants is to facilitate return to activity, but muscle relaxants have not been shown to be more effective than non-steroidal anti-inflammatory drugs [NSAIDs].)
  - Reassure patient: patient education - common problem (90% of patients recover spontaneously in 4 weeks)

Official Disability Guidelines (ODG) Return-To-Work Pathways (lumbar sprain and lumbago)

Modified Duty --

Mild, clerical/modified work: 0 days

Severe, clerical/modified work: 3 days

(See ODG Capabilities & Activity Modifications for Restricted Work under "Work" in the Procedure Summary for Ergonomic accommodations of the original guideline document)

- Second visit (day 7 - about 1 week after first visit)
  - Document progress (flexibility, areas of tenderness, motor strength, straight leg raise--sitting and supine).
  - If still 50% disabled then consider referral for exercise/instruction/manual therapy [Benchmark cost: $250]: Options are physical therapist, chiropractor, massage therapist, or occupational therapist (3 visits in first week), or by treating DO/MD (Choose providers supporting active therapy and not just passive modalities.) Consider screening for psychosocial symptoms in cases with expectations of delayed recovery.
  - Discontinue muscle relaxant.

ODG Return-To-Work Pathways (lumbar sprain and lumbago)

Manual Work --

Mild, manual work: 10 days

Severe, manual work: 14-17 days

- Third visit (day 14 - about 1 week after second visit)
  - Document progress.
  - Prescribe muscle-conditioning exercises.
  - At this point 66 to 75% should be back to regular work.
  - While not indicated in the absence of red flags, if still disabled, then consider imaging study (anterior-posterior (AP)/lateral 2-view x-ray of lumbar) [Benchmark cost: $150] to rule out tumor, fracture, osteoporosis, myelopathy
  - Continue therapist, change from passive to active modality, 2 visits in next week, teach home exercises
  - End manual therapy at 4 weeks (1 visit in last week)

ODG Return-To-Work Pathways (lumbar sprain and lumbago)

Manual & Heavy Manual Work --

Severe, manual work: 14-17 days

Severe, heavy manual work: 35 days

With Radiculopathy (10% of cases)

- Also first visit (day 1)
  - Same as non-radicular

ODG Return-To-Work Pathways (intervertebral disc disorders)

Disc bulge --

Mild cases with back pain, avoid strenuous activity: 0 days

Herniated disc --

Initial conservative medical treatment, clerical/modified work: 3 days

- Second visit (day 7 - about 1 week after first visit)
  - Same as non-radicular, but
  - Reassure, but if increased numbness or weakness of either leg, get back to provider in one day
  - Consider referral to musculoskeletal physician (Orthopedist/Physical Medicine/Sports Medicine).
- Third visit (day 14 - about 1 week after second visit)
  - Same as non-radicular, but

        - About 50% can be back at modified duty.
        - If improvement, then add strengthening exercises, increased activity
        - Consider an epidural steroid injection (ESI) for severe cases hoping to avoid surgery [Benchmark cost: $676] (Note: The purpose of ESI is to reduce pain and inflammation, restoring range of motion and thereby facilitating progress in more active treatment programs, but this treatment alone offers no significant long-term functional benefit.)
- Fourth visit (day 21 to 28 - about 1-2 weeks after third visit)
    - Document, if no improvement then:
    - First magnetic resonance imaging (MRI) (about 3% of total cases, or 30% of radicular cases) to confirm extruded disk with nerve root displacement (>1 month conservative therapy) [Benchmark cost: $1,600]
    - MRI or computed tomography (CT) not indicated without obvious clinical level of nerve root dysfunction, clear radicular findings, or before 3 to 4 weeks
    - If MRI unavailable or inconclusive, then myelogram and post-myelogram CT may be considered [Benchmark cost: $750]
    - EMGs (electromyography) may be useful to obtain unequivocal evidence of radiculopathy, after 1-month conservative therapy, but EMGs are not necessary if radiculopathy is already clinically obvious.
    - If no improvement, consider prescribing 2nd ESI (7 to 10 days after 1st) [Benchmark cost: $615]; there should be a maximum of two ESIs, and the second ESI can be 7 to 14 days after the first, depending upon the patient's response and functional gain.
    - If psychological factors retarding recovery are suspected, possibly refer to psychologist for testing. [Benchmark cost: $540]
    - Education: Consider back school as an option, if available.

ODG Return-To-Work Pathways (intervertebral disc disorders)
Initial conservative medical treatment, manual work: 28 days
Initial conservative medical treatment, regular work if cause of disability: 84 days

- Surgery (three months or more -- after appropriate work-up and consultation, concordance between radicular findings on radiologic evaluation and physical exam findings) (about 2% of total cases, or 20% of radicular cases) (See also ODG Indications for Surgery™ -- Discectomy in the Procedure Summary of the original guideline document)
    - Refer to fellowship trained Spine Surgeon: Neurosurgeon (50%), Orthopedist (50%)
    - Before surgery, screen for psychological symptoms that could affect surgical outcome (e.g., substance abuse, child abuse, work conflicts, somatization, verbalizations, attorney involvement, smoking).
    - Review options/outcomes with patient, let patient be part of decision making.
    - Simple discectomy/laminectomy, minimally invasive [Benchmark cost: $17,400]
    - Post-operative pain, walking exercises, physical therapy

ODG Return-To-Work Pathways (intervertebral disc disorders)

Discectomy, clerical/modified work: 28 days

Discectomy, manual work: 56 days

Discectomy, heavy manual work: 126 days to indefinite

Laminectomy, clerical/modified work: 28 days

Laminectomy, manual work: 70 days

Laminectomy, heavy manual work: 105 days to indefinite

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

During the comprehensive medical literature review, preference was given to high quality systematic reviews, meta-analyses, and clinical trials over the past ten years, plus existing nationally recognized treatment guidelines from the leading specialty societies.

The type of evidence associated with each recommended or considered intervention or procedure is ranked in the guideline's annotated reference summaries.

Ranking by Type of Evidence:

1. Systematic Review/Meta-Analysis
2. Controlled Trial-Randomized (RCT) or Controlled
3. Cohort Study-Prospective or Retrospective
4. Case Control Series
5. Unstructured Review
6. Nationally Recognized Treatment Guideline (from www.guideline.gov)
7. State Treatment Guideline
8. Foreign Treatment Guideline
9. Textbook
10. Conference Proceedings/Presentation Slides

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

These guidelines unite evidence-based protocols for medical treatment with normative expectations for disability duration. They also bridge the interests of

the many professional groups involved in diagnosing and treating work-related low back pain.

POTENTIAL HARMS

Anti-inflammatory treatment of injuries may delay recovery.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

The Treatment Protocol sections outline the most common pathways to recovery, but there is no single approach that is right for every patient and these protocols do not mention every treatment that may be recommended. See the Procedure Summaries (in the original guideline document) for complete lists of the various options that may be available, along with links to the medical evidence.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Low back - lumbar & thoracic (acute & chronic). Corpus Christi (TX): Work Loss Data Institute; 2006. 390 p. [456 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2003 (revised 2006)

GUIDELINE DEVELOPER(S)

Work Loss Data Institute - Public For Profit Organization

SOURCE(S) OF FUNDING

Not stated

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

Note: This guideline has been updated. The National Guideline Clearinghouse (NGC) is working to update this summary.

GUIDELINE AVAILABILITY

Electronic copies of the updated guideline: Available to subscribers from the Work Loss Data Institute Web site.

Print copies: Available from the Work Loss Data Institute, 169 Saxony Road, Suite 210, Encinitas, CA 92024; Phone: 800-488-5548, 760-753-9992, Fax: 760-753-9995; www.worklossdata.com.

AVAILABILITY OF COMPANION DOCUMENTS

Background information on the development of the Official Disability Guidelines of the Work Loss Data Institute is available from the Work Loss Data Institute Web site.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on February 2, 2004. The information was verified by the guideline developer on February 13, 2004. This NGC summary was updated by ECRI on March 28, 2005, January 3, 2006, and on April 11, 2006.

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